

In response to that Office Action, please amend the above-identified application as follows:

IN THE CLAIMS

Please cancel Claims 6, 35, and 39 without prejudice and without disclaimer of subject matter.

Please amend Claims 1, 2, 7, 8, 11, 14-25, 27, 29-34, 36-38, 40-42, 44 and 46, and add Claim 47, to read as follows. A marked-up copy of the amended claims, showing the changes made thereto, is attached. Note that all of the claims currently pending in this application, including those not presently being amended, are set forth below for the Examiner's convenience.

1. (Amended) A method for producing an electron-emitting device including a pair of electrodes and an electroconductive film having an electron-emitting region, said electroconductive film being disposed between the pair of electrodes, wherein said electron-emitting region is formed by a process comprising the steps of:

E 1 heating, at a temperature not higher than 150°C, a substrate on which an electroconductive film is disposed; and

energizing the electroconductive film,

wherein the steps of heating and energizing are conducted within an atmosphere comprising a gas for promoting cohesion of the electroconductive film.

G1
2. (Amended) A method for producing an electron-emitting device including a pair of electrodes and an electroconductive film having an electron-emitting region, said electroconductive film being disposed between the pair of electrodes, wherein said electron-emitting region is formed by a process including the steps of:

preparing an electroconductive film; and

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energizing said electroconductive film, while heating a substrate on which said electroconductive film is disposed at a temperature not higher than 150°C within an atmosphere comprising a gas for promoting cohesion of the electroconductive film.

G1
3. (Not Changed From Prior Version) The method according to Claim 1 or 2, wherein the gas for promoting the cohesion of the electroconductive film is a reducing gas.

4. (Not Changed From Prior Version) The method according to Claim 1 or 2, wherein the gas for promoting cohesion of the electroconductive film is H₂, CO or CH₄.

5. (Not Changed From Prior Version) The method according to Claim 1 or 2, wherein the gas for promoting the cohesion of the electroconductive film is H₂.

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7. (Amended) The method according to Claim 1 or 2, wherein the heating of the substrate is carried out at a temperature not higher than 100 °C.

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8. (Amended) The method according to Claim 1 or 2, wherein the heating of the substrate is carried out at a temperature in the range of 50 °C to 100°C.

G2
9. (Not Changed From Prior Version) The method according to Claim 1 or 2, wherein said electroconductive film is an electroconductive film formed through a step of dispensing a droplet containing a metallic compound onto a substrate.

E2
10. (Not Changed From Prior Version) The method according to Claim 9, wherein the dispensing of the droplet onto the substrate is carried out by an ink jet method.

~~E2~~
G3
11. (Amended) The method according to Claim 1 or 2, wherein a material to be subjected to the heating and the energizing so as to be formulated into said electroconductive film comprises a metallic oxide.

E3
12. (Not Changed From Prior Version) The method according to Claim 11, wherein said metallic oxide is palladium oxide.

G4
13. (Not Changed From Prior Version) The method according to Claim 1 or 2, wherein said electron-emitting device is a surface conduction electron-emitting device.

E4
14. (Twice Amended) A method for producing an electron source comprising a plurality of electron-emitting devices, each including a pair of electrodes and

an electroconductive film having an electron-emitting region, said electroconductive film being disposed between the pair of electrodes, comprising the steps of:

64 forming said plurality of electron-emitting devices by a process including the steps of:

heating, at a temperature not higher than 150°C, a substrate on which a plurality of electroconductive films are disposed; and energizing said electroconductive films, wherein said steps of heating and energizing are conducted within an atmosphere comprising a gas for promoting cohesion of the electroconductive film.

65 15. (Twice Amended) A method for producing an image-forming apparatus comprising (a) an electron source comprising a plurality of electron-emitting device, each including a pair of electrodes and an electroconductive film having an electron-emitting region, said electroconductive film being disposed between the pair of electrodes, and (b) an image-forming member for forming an image under irradiation of electrons emitted from the electron source, the method comprising the steps of:

64 forming said plurality of electron-emitting devices by a process including the steps of:

heating, at a temperature of not higher than 150°C, a substrate on which a plurality of electroconductive films are disposed; and energizing said electroconductive films,

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wherein the steps of heating and energizing are conducted within an

atmosphere comprising a gas for promoting cohesion of the electroconductive films.

E 5

16. (Twice Amended) A method for producing an electron source

comprising a plurality of electron-emitting devices, each including a pair of electrodes and

an electroconductive film having an electron-emitting region, said electroconductive film

being disposed between the pair of electrodes, comprising the steps of:

forming said plurality of electron-emitting devices by a process including the steps of:

preparing a plurality of electroconductive films; and

energizing said electroconductive films, while heating a substrate on which said electroconductive films are disposed at a temperature of not higher than 150°C within an atmosphere comprising a gas for promoting cohesion of the electroconductive film.

17. (Twice Amended) A method for producing an image-forming apparatus

comprising (a) an electron source comprising a plurality of electron-emitting devices, each

including a pair of electrodes and an electroconductive film having an electron-emitting

region, said electroconductive film being disposed between the pair of electrodes, and (b) an

image-forming member for forming an image under irradiation of electrons emitted from the

electron source, the method comprising the steps of:

forming said plurality of electron-emitting devices by a process including the steps of:

preparing a plurality of electroconductive films; and

energizing said electroconductive films, while heating a substrate on

which said electroconductive films are disposed at a temperature of not higher than 150°C

within an atmosphere comprising a gas for promoting cohesion of the electroconductive film.

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18. (Amended) A method for producing an electron-emitting device including a pair of electrodes and an electroconductive film having an electron-emitting region, said electroconductive film being disposed between the pair of electrodes, wherein said electron-emitting region is formed by a process of:

preparing an the electroconductive film; and

energizing said electroconductive film while heating a substrate on

which said electroconductive film is disposed within a predetermined atmosphere

comprising a gas for promoting cohesion of the electroconductive film, wherein, after the

start of the energizing and the heating, the predetermined atmosphere including the gas for

promoting the cohesion of the electroconductive film is formed.

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19. (Amended) The method according to Claim 18, wherein, after the start of the heating, the energizing starts.

E6

20. (Amended) The method according to any one of Claims 14 to 19,
wherein the gas for promoting the cohesion of the electroconductive film is a reducing gas.

G6
21. (Amended) The method according to any one of Claims 14 to 19,
wherein the gas for promoting the cohesion of the electroconductive film is H₂, CO, or CH₄.

~~22. (Amended) The method according to any one of Claims 14 to 19,
wherein the gas for promoting the cohesion of the electroconductive film is H₂.~~

E6
23. (Amended) The method according to any one of Claims 14 to 17,
wherein the heating of the substrate is carried out at a temperature of not more than
approximately 100°C.

24. (Amended) The method according to any one of Claims 14 to 17,
wherein the heating of the substrate is carried out at a temperature in the range of 50°C to
100°C.

G1
25. (Amended) The method according to any one of Claims 14 to 19,
further comprising the step of forming the electroconductive film by dispensing a droplet
containing a metallic compound onto the substrate.

26. (Not Changed From Prior Version) The method according to Claim 25, wherein the dispensing of the droplet onto the substrate is carried out by an ink jet method.

~~E7~~ G8 27. (Amended) The method according to any one of Claims 14 to 19, wherein a material to be subjected to the heating and the energizing so as to be formulated into said electroconductive film comprises a metallic oxide.

28. (Not Changed From Prior Version) The method according to Claim 27, wherein the metallic oxide is palladium oxide.

G9 29. (Amended) The method according to any one of Claims 14 to 19, wherein the electron-emitting device is a surface conduction electron-emitting device.

E8 30. (Amended) A method for producing an electron source comprising a plurality of electron-emitting devices, each including a pair of electrodes and an electroconductive film having an electron-emitting region, said electroconductive film being disposed between the pair of electrodes, comprising the steps of:

forming said plurality of electron-emitting devices by a process including the steps of:

preparing a plurality of electroconductive films; and

68 energizing said electroconductive films, while heating a substrate on which said electroconductive films are disposed within a predetermined atmosphere comprising a gas for promoting cohesion of the electroconductive films, wherein after the start of the energizing and the heating, the predetermined atmosphere including the gas for promoting the cohesion of the electroconductive films is formed.

72 31. (Amended) A method for producing an image-forming apparatus
E8 comprising (a) an electron source comprising a plurality of electron-emitting devices, each
Comp including a pair of electrodes and an electroconductive film having an electron-emitting region, said electroconductive film being disposed between the pair of electrodes, and (b) an image-forming member for forming an image under irradiation of electrons emitted from the electron source, the method comprising the steps of:

forming said plurality of electron-emitting devices by a process including the steps of:

preparing a plurality of electroconductive films; and

energizing said electroconductive films, while heating a substrate on which said electroconductive films are disposed within a predetermined atmosphere comprising a gas for promoting cohesion of the electroconductive films, wherein, after the start of the energizing and the heating, the predetermined atmosphere including the gas for promoting the cohesion of the electroconductive films is stored.

32. (Amended) The method according to Claim 30, wherein after the start of heating, the energizing starts.

E8
33. (Amended) The method according to Claim 31, wherein after the start of the heating, the energizing starts.

G10
34. (Amended) The method according to any one of Claims 18, 19, and 30-33, wherein the heating of said substrate is conducted at a temperature of not higher than 150°C.

E9
36. (Amended) The method according to any one of Claims 30-33, wherein the gas for promoting the cohesion of the electroconductive film is a reducing gas.

37. (Amended) The method according to any one of Claims 30-33, wherein the gas for promoting cohesion of the electroconductive film is H₂, CO or CH₄.

38. (Amended) The method according to any one of Claims 30-33, wherein the gas for promoting the cohesion of the electroconductive film is H₂.

G11
E10
40. (Amended) The method according to any one of Claims 18, 19 and 30-33, wherein the heating of the substrate is carried out at a temperature not more than 100°C.

G 11
Amended

41. (Amended) The method according to any one of Claims 18, 19 and 30-

33, wherein the heating of said substrate is carried out at a temperature in the range of 50 °C to 100°C.

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42. (Amended) The method according to any one of Claims 30- 33,

wherein said electroconductive film is an electroconductive film formed through a step of dispensing a droplet containing a metallic compound onto a substrate.

43. (Not Changed From Prior Version) The method according to Claim 42,

wherein the dispensing of the droplet onto the substrate is carried out by an ink jet method.

E 11

44. (Amended) The method according to any one of Claims 30-33, wherein

said electroconductive film is an electroconductive film comprising a metallic oxide as a matrix.

45. (Not Changed From Prior Version) The method according to Claim 44,

wherein said metallic oxide is palladium oxide.

E 12

46. (Amended) The method according to any one of Claims 30-33, wherein

said electron-emitting device is a surface conduction electron-emitting device.